UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON D.C., 20460

OFFICE OF
CHEMICAL SAFETY AND
POLLUTION PREVENTION

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MEMORANDUM

SUBJECT: **Thiamethoxam:** Transmittal of Two Data Evaluation Records for Pollinator Toxicity Studies

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The Environmental Fate and Effects Division (EFED) has completed the review of two chronic toxicity studies of thiamethoxam to adult and larval honeybees which were submitted to the Agency as part of the Registration Review of thiamethoxam. Acceptable data from a single dose larval acute toxicity study are still outstanding; however, based on the results of these reviews no additional information to obtain endpoints for Tier I laboratory studies are necessary. EFED will use the results from the repeat dose test (considered conservative) to characterize mortality risks to larvae from thiamethoxam, noting mortality effects greater than 50% were not manifested until pupal mortality was measured at day 15. Study details are presented in **Table 1**.

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Table 1. Details for the Thiamethoxam Studies on Honey Bees

Study Type	MRID	Study Citation	Study Classification	Comments
Tier I - Chronic 21-day larval continuous feeding Thiamethoxam TGAI (98.8%) Non-guideline, OECD 239	50096607	Kling, A (2016). Thiamethoxam-Honey Bee (*Apis mellifera* L.) Larval Toxicity Test (Repeated Exposure through to Adult Emergence) Project Number: Eurofins Study No. S16-00331. Unpublished study prepared by Eurofins Agroscience Services EcoChem GmbH	Acceptable	**Dietary Dose (µg ai/larva/day)** Adult Emergence (day 22) ED_{50}: 0.0301 95% CI: 0.0172 – 0.0637 Slope: 1.05 (0.535 – 1.56) NOAEL: 0.004 LOAEL: 0.008 Mortality (day 15) LD_{50}: 0.0453 95% CI: 0.0263 – 0.116 Slope:1.06 (0.541 – 1.57) NOAEL: 0.028 LOAEL: 0.059 Mortality (day 8) LD_{50}: >0.120 95% CI: N/A Slope: N/A NOAEL: 0.004 LOAEL: 0.008* **See the DER if dietary concentrations endpoints are necessary.** ***See DER for characterization**
Tier I - Chronic adult 10-day continuous feeding Thiamethoxam TGAI - (99.5%) OECD 245	50084901	Kling, A (2016). Thiamethoxam- Assessment of Effects on the Adult Honey Bee, *Apis mellifera* L., in a 10-Day Chronic Feeding Test under Laboratory Conditions. Project Number: Eurofins Study No. S16-00325. Unpublished study prepared by Eurofins Agroscience Services EcoChem GmbH.	Acceptable	**Dietary Dose** Mortality LD_{50}: 3.67 ng ai/bee/day 95% C.I.: 2.39 – 5.99 µg ai/bee/day Slope: 5.59 95% C.I.: 1.77 – 9.42 NOAEL: 2.51 ng ai/bee/day LOAEL: 4.87 ng ai/bee/day Food Consumption ID_{50}: 4.90 ng ai/bee/day 95% C.I.: 3.31 – 7.28 µg ai/bee/day Slope: N/A NOAEL: 1.17 ng ai/bee/day LOAEL: 1.85 ng ai/bee/day **See the DER if dietary concentrations endpoints are necessary.**

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